



Imprimatur.

June 13. 1664.

Roger L'Estrange.






Imprimatur.

June 13. 1664.

Roger L'Estrange.



A  
DISCOURSE  
OF  
SUBTERRANEAL  
TREASURE.

Occasioned by some late Discoveries  
thereof in the County of

NORFOLK,

And sent in a LETTER  
To

Thomas Brown, M. D.

LONDON,

Printed for J. Collins, at the Kings  
Head in Westminster-Hall, 1668.



8<sup>o</sup> A. 9. 30 Jur

DISCOURSE

AND



OF

THE

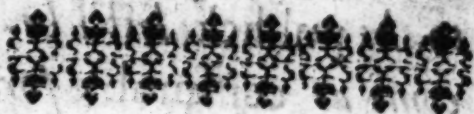
OF

LONDON

Printed by J. Sturges, at the Press of the University of London, in the Strand, 1788.

82.2.18





TO THE  
Reader.

READER,



*Am unwilling  
to make those  
Common -  
Pleas (with  
which thou hast been  
sufficiently tired alrea-  
dy)*

A 4.

dy)

## The Epistle

dy) for my exposing this  
to the publick, lest I be-  
come as censurable for  
this, as for the Tract  
it self. I must confess  
that I sent it willingly  
into the light; and al-  
though I cannot pretend  
any general good in it,  
yet it may be useful to  
some that are studious of  
Natures book, as ano-  
ther mans discoveries  
or rational Discourses  
may

---

To the Reader.

---

may be to me. I do not  
fear to say, that I have  
so much doated on the  
Volumes of the Crea-  
tion, that as I cannot  
think the meanest of  
Gods creatures so de-  
spicable but that its  
contemplation deserves  
to be matter of business  
as well as of diversion  
to the wisest; so (to those  
that are considerate and  
observing) the Arcana  
Field A4 Natu-

## The Epistle

Natural, or (if it be law-  
ful so to call these) the  
magnalia Dei, are much  
more valuable and  
worth our search. If I  
have discovered any  
thing in this little hand-  
ful, as I hope I have;  
or if the discovery can  
be to any, any way use-  
ful, as I hope it may be,  
either to satisfy, or at  
least to aduate them to a  
further inquiry. The  
Field

To the Reader.

Field is large enough,  
we need not juggle. I  
have my design. And  
though it were, or be  
but a partial detecting  
of a concealed truth;  
yet even that will hide  
some indiscretions in  
the management. How-  
ever as he said of Evils,  
*Μυρία κρύπτει κακά μυρία.* I may  
say of my faults, The  
secrecy of the business  
discourfed will hide the  
errors

To the Reader, &c.

errors of the discour-  
ser. But if thou shouldst  
judge me fond of a  
phantie or invention,  
I shall not fail of thy  
excuse, since I am not  
the first that have run  
naked into publick  
with an *Logica* in my  
mouth; what is amiss  
amend, and

Farewell.

T. L.

*Mercurius Centralis :*

OR,

A DISCOURSE

OF

Subterranean Cockle, Muscle,  
and Oyster-shells, found in  
the digging of a Well, &c.

**D**Octor, I have made  
the best inquiry I  
could in so short a  
time, after the truest cause  
of that vein of Cockle and  
Muscle-shells that was dig-  
ged up in Norfolk, so ma-  
ny foot deep under the sur-  
face

face of the Earth. And upon my most serious examination do believe, that that *reason* which I casually bolted out when you first mentioned it to me, is the most *likely* and *probable*, if not the only that can be given of it; of which I will give more than empty conjectures in the following Discourse. But before I come to unfold that my *opinion*; I will insist on some things that relate to it, both for *method* sake, and



and to gain a little the more Reputation to it; and then will give you, or any else leave to judge of it as you shall think fit; nor shall it displease me if any are of a different judgment.

God that made the Universe for Mans use and delight, hath beautified it with infinite varieties. In the animal kingdom, what diversity of Creatures, Volatile, Reptile, Natant, and Gradient? How different their shape, use, colour

## Mercurius Centralis.

low, greatness, and smallness,  
their sents, their tempers,  
natures? How various  
their amities, enmities, sym-  
pathies, and antipathies?  
In the Vegetable kingdom,  
how different their shapes,  
proportions, colours, orders,  
tastes; the first, second and  
other qualities. Of their  
leaves, flowers, roots, barks,  
seeds, fruits, tears, and  
gumms? Nor is Nature less  
skilful in generating and  
ordering the strange Forms  
and Figures of Subterranean  
bodies. Amongst an hun-  
dred

dred thousand stones on a strand, a man shall not find two that in all things exactly agree; and yet there is many times some more general and gross likeness.

But if we examine the several species of Mineral bodies, there will be visible an admirable and pleasing variety. Some are seen in the form of Cylinders, of which I have been present when many thousands have been taken out of Marle-pits. Some are exactly spherical like

*Obsid.  
lib. 17.*

like Bullets, but much bigger; so equally round that no art can be more exact, and of them many Ship loadings, between two Hills in Cuba. Many hundred flints in the same form I have found dispersedly near the place I live in: In which also I have observed that their coat and external covering is white; next to that the stone is very black; but nearer to the Centre it is of a brighter colour, in which by the help of a Microscope

I have seen as it were little sparkling Diamonds; in others of the same form I have found with my naked eyes many thousand such sparkling stones as big as pins-heads, and some as big as small barley-corns, of an excellent lustre when they are held in the Sun. I have seen likewise *Fossiles Aetites*, if I may so call them; stones in an Oval shape as big as Pigeons Eggs, hollow in the inside, and impregnate with lesser stones, which on the shaking

king betray'd themselves  
 by their sound, as the kernels  
 in the dry stones of  
 Peaches. Diamonds, and our  
 Cornish and Bristol stones  
 are all generated with  
 Mr. S. S. spires or points. A friend  
 of mine imparted to me  
 a fluor that grew on a  
 rocky stone that is very clear  
 and shoots in the same  
 form, and is so hard that it  
 will cut glass. Some are  
 seen in the form of Cones,  
 some of Pyramids, some of  
 Semispheres, and gutter'd  
 and furrow'd on the sides  
 like

like the pummels of some  
Swords; some smooth, some  
writhed. Crystal doth shoot  
in sexangulos. I saw stones  
digged out of a little Ca-  
vern by a Springs-side be-  
tween St. Ives and Somer-  
sham in Huntingdon-shire,  
every one of them had the  
same Figure, and were in  
compais sexangular, with  
two broader and more  
depressed superficies, on ei-  
ther side it made a perfect  
Rhomboides, clear as Cry-  
stal, but very soft and apt  
to scale; of which none  
knew

knew any considerable  
use: only the powder of  
it was found good to Ci-  
catrize green wounds.  
And indeed almost all  
sorts of *stones*, whether  
more choice and orient, or  
more base and vulgar,  
have for the most part be-  
sides their different ver-  
tues, several *Figures* and  
*Colours*. But these are  
mean, low and common  
observations. What shall  
we think of that, *Cornu*  
*Monocerotis fossile*; those  
*ossa subterranea & fossilia*;  
which



which are very often generated of *osteocolla* and the like substances, and have given complexion to those stories of \* Gyantick races. \* Nor deny that there have been men of vast bodies in several ages. The Sons of Anak were without question very great men. Goliath and others mentioned were Giants. We read of Giants famous from the beginning, that were of so great stature and so expert in war, Baruch 3. 26. of the Sons of the Titans and high Giants, Judith 16. 7. At Coggeshall were found two teeth that might have been cut into two hundred of an ordinary size. Camb. de Trinobant. St. Augustine saw such an one at Utica. But these even in the Scriptura, the most exact history in the world, are recorded as rare; so that I do not believe that they have been common in any Country, much less that any Country hath been inhabited by only such. An old Poet cited by our Anti-quary

any speaking that Cornwall was the seat of  
Jove, saith they were but few.

— — — — — Tiranibus illa

et paucis famulosa domus.

Vid. Hackwell in Apolog. de hoc subjecto.

in several Countries; be-  
cause this, like bones of  
men, hath been found of a  
vast bigness? What shall  
we think of those bones of  
Fish, and such Subterranean  
Muscle and Oyster-shells  
found at Darmstadt in the  
Palatinate, and at other  
places near Heide!berg, and  
in Silesia, and those you  
mentioned to me? At  
New-house a seat of one  
Mr.

Mr. Eyres in *White-Parish*  
in the County of *Wilts*, as  
they were digging of a  
Well about thirty foot deep  
(as it was related to me)  
between two veins of sand  
were found infinite num-  
bers of *Oyster-shells* in a  
bed, both shells closed to-  
gether, and nothing dis-  
cernable between them  
but a little dust. But far-  
ther yet, what can we say  
of those *Tables of stone* in  
which are seen the *Pi-  
ctures* of divers *Planets*, of  
*Frogs*, *Serpents*, *Salaman-  
ders*;

*Epitom.*  
*Phys.lib.*  
*5.cap.4.*

ders; nay, *Principum* et  
*illustrium virorum* imagines,  
as *Sennertus* saith are  
found in *Islebia*? I my self  
have seen an *Agate* with a  
natural foil like a *Black-*  
*moores* head, and another  
like an *Oaken* leaf, that  
some have went to brush  
away, and yet it was  
within the stone, and so  
exact too, that it deceived  
the very sight. *Erasmus*  
describeth one that he  
saw in *England* in a *Tem-*  
*ple* at the feet of the image  
the *Virgin Mary*, in which  
there

there was the form of a  
Toad. I will set it down  
in his own words. Og.

*Ad pedes virginis est gemma* Coll. Pe-  
grin. re-  
lig. *Ergo.*

*Græcos nomen inditum est,  
Galli à Bufone nomē dederunt,  
eo quod bufonis effigiem sic ex-  
primat, ut nulla ars idem possit  
efficere. Quodq; majus est mi-  
raculum; pusillus est lapillus;  
non prominet bufonis imago,  
sed in ipsa gemma velut inclu-  
sa pellucet.* This, Menede-  
mus that discourseth with  
him, imputes rather to  
the fancy of the beholder;

B

as

as Children think they  
see heads, and faces, and  
bulls, and swords, in the  
Clouds. But he answer-  
eth. *Imò ne sis nesciens,*  
*nullus bufo vivus evidentius*  
*exprimit seipsum quam illis*  
*erat expressus.* And from  
his companions incredu-  
lity taketh occasions  
largely to discourse the  
strange forms of stones.  
Now although it be im-  
possible to find out the  
certain causes of these  
most noble and reclusive  
works of Nature, these  
being

being such things, where-  
in we have very great rea-  
son to admire the provi-  
dence of God, and his most  
perfect work-man-ship, that  
hath given to each crea-  
ture (as Schroder calls it)  
*rationem seminalem*; or as  
Severinus, the knowledge or  
science of its own proper  
form. And indeed some  
of them are in this as cer-  
tain as the most voluntary  
agents. And even those  
which casually obtain  
these shapes may be  
guessed at, for (besides  
B 2 the

the *lufus naturæ*, which most flic to) the creatures they represent may be petrified, a *spiritu lapidescente*; or may be inclosed as in a Coffin in the purer unconcrete matter of stones; which being speedily hardened, and those in some measure assimilated to that stony substance, their lineaments shine through, as Flies cased in Amber are seen almost as clearly as if they were out of it. And particularly for such *shells* we are now to discourse of, there



there may be some conjecture had of some of their forms; and this brings me to distinguish between *Muscle* and *Cockle-shells* really, and such in shape and appearance only; for I have seen many stones in the shape of these, which I imagine were thus made. The *Oyster*, *Muscle*, or *Cockle-shells*, lying in such places where they have been cast out by men, have casually received the *succus lapidescens*, or unconcrete matter of stones, and

B3

have..

have become a *bed* or *matrix* to it; and so hath that *stone* been shapen according to this *mould*, as *gourds* while they are young put in *glassess* grow not according to their usual natural *form*, but according to the *shape* and *proportion* of the *glassess*.

2. If they were really *Muscle* and *Cockle-shells*, that could not be the *place* of their *generation*, but they must be by some *violence* and *impetuosity* hurried thither; and for their  
loco.

loco-motion we can find no other Media than the earth or air. And first for the air. Those that have sailed to the Indies can inform you with what force *Hir- canoes* or *Turbines* (which some distinguish ; but I think that there is no other difference between them, than that the *Hir- cano* is a circumagitation of the air or *Whirlewind* tending downwards ; and the *Turbo* the *Whirlewind* tending upwards) the meeting together of contrary furi-

ous winds, have taken up whole Seas of water; and what should hinder them that when they fall foul near a shore, they should not rake the Seas, and carry other bodies besides the water? Some Mariners in the North-west discovery were eye-witnesses of such a whirlwind, that for the space of three hours together, took up vast quantities of water, furiously mounting them up in the air. And altogether as strange hath the force of it

*Hackl-*  
*yt. Disc.*  
*no. 3. p.*  
*100.*

it been on dry ground, of  
which Bellarmine gives us Bell. de  
Ascens.  
mont. 10  
a relation that it is so in-  
credible, that he premiseth Deum,  
Grad. 2.  
cap. 4.  
this, *Quod nisi vidissem, non*  
*crederem.* He thus descri-  
beth it; *Vidi ego à vehe-*  
*mentissima vento effossam in-*  
*gentem terræ molem, eamq;*  
*delatam super pagum quen-*  
*dam, ut fovea altissima con-*  
*spiceretur unde eruta fuerat,*  
*& pagus totus coopertus &*  
*quasi sepultus manserit; ad-*  
*quem terra illa devenerat.*  
It is ordinary in most  
histories to read of bloud  
fal.

*Anno* falling in showres, or at  
*ab urbe* least of what is analogous to  
*condita* blond, of wood, wool, worms.  
*ccclxxx* Munster \* tells us of Frogs,  
*lac de* Mice, and Rats, that fell  
*cælo ma-* with some feculent showres  
*nare vi-* in Norway. There is one  
*sum est.* at this time living, that  
*Oros. lib.* walking through a low  
*4. cap. 5.* marish ground in England,  
 In the fourth year of  
 Ivor the son of  
 Alan in Wales, it rained blood in England and  
 Ireland. Welch. chron. *Gabius lacke pluuit. T.*  
*Graccho, Tit. M. inlio, Coss. In Græcostasi. G. C. L.*  
*Cai. Sext. Coss. Praneste. L. Cecil. L. Aurel. Coss.*  
*In Agro Perusino P. Sor. G. Atil. Coss. sanguine*  
*per biduum pluuit in Area Vulcani & Concordia.*  
*M. C. Quint. Fab. Coss. Lapid. Pluvie. In*  
*Aventino Tusculi lapidibus pluuit. Vid. Jul. Obs.*  
*de prodig. ad fin. Plinii,*  
 \* Munster. Cosmog. lib. 4. cap. 22.

in

in a foggie morning, had  
his Hat almost covered  
with little Frogs, that fell  
on it as he walked: and  
many at some times on  
the tops of houses and leads,  
have found great num-  
bers of such creatures. At  
Arles in France in the year  
1553. Infinite swarms of *Valeriolæ*  
Locusts fell on their fields, and *obs. lib. 1.*  
immediately devoured all that *obs. 1.*  
was green, Magnâ incolarum  
admiratione & consternatione.  
So we read that by an  
East wind the Locusts which  
covered the face of Egypt  
were

were brought on it, & by  
as a strong West wind they  
were carried off again;  
*Exo. 10. 13, 19.* Stones like-  
wise have thus fallen. In  
Japan, on a day when  
they solemnized a great Fe-  
stival to their Idol, there  
fell among them a great  
showre of stones, which  
slew many, and put the  
rest to their heels to shift  
for themselves. And it  
is very likely that those  
showres of hail that slew so  
many in several stories,  
were *grandines lapidum*, (as

*Lactantius*

*Organ-  
tius.*



Lactantius calls those <sup>Lactant.</sup>  
showres of vengeance, that <sup>Dio. Just.</sup>  
God will at the last send <sup>7. c. 26.</sup>  
on the Devil and his ac-  
complices) to which the ex-  
pression of history agrees.

At the time of Alexanders <sup>Oros. l. 3.</sup>  
birth, Saxea de nubibus <sup>c. 6.</sup>

grando descendens, veris ter-  
ram lapidibus verberavit.

And to this is the Scripture  
consonant, Jos. 10. 11. For

what is called hail in the  
later part of the verse, is

stones in the former. And

as they fled from before Israel,  
and were going down to

Be-

Bethoron, the Lord cast down  
 great stones from heaven upon  
 them unto Azekah, and they  
 died. And that heteroge-  
 neous bodies are found in  
 mines, and on the tops of  
 mountains, Aristotle insinn-  
 uates this to be the cause,  
 viz. that they are brought  
 to such places by the winds.  
 It seems I must confess  
 the more colourable, that  
 things should be brought  
 this way from the Sea,  
 because the Sea both of  
 old, and more lately, hath  
 been deemed to be the  
 father.

father of the winds. Erasmus describing Parathalassia saith, *In propinquo est oceanus ventorum pater*, and the old Poet speaking of the generation of the winds, finds out the same cause:

Ὅς τε ἀνυόμενος ποταμῶν ἀπὸ αἰῶ-  
νός τε καὶ γαίης ἀπὸ τοῦ ἀέρος οὐρανῶν.

Hesiod.  
Oper. &  
dies  
p. 44.

And therefore winds have in some places been observed to be Obsequious to the course of the Moon as the waters are, which that Roman Poet hints.

Thra.

Horat. *Thracio bacchante magis sub*  
*Carm.*  
*lib. 1.* *interlunio vento.*

Od. 25. 'Tis true, no man can tell  
 the force and fury of the  
 unbridled winds, that are  
 so mad that they know  
 not whence they come,  
 nor whither they will.  
 But yet were such heteroge-  
 neities which are found so  
 deep this way brought, they  
 should be found in all or  
 most places alike; and  
 they should be found a-  
 bove ground too, unless  
 we can imagine that  
 immediately on their  
 fall-

falling the Earth suffer  
some Chasm, and doth in-  
gulf and swallow them  
into its bowels. And there-  
fore it is most probable  
they are brought to such  
places from the Sea, the  
place of their Generation,  
generally under the Earth.

3. If they are brought  
from the Sea to the place  
they are found in, under the  
Earth, it must be either by  
a natural or by a supernatu-  
ral impellent or mover; by spi-  
rits, or by a natural vehicle.  
No man that is either a

Phi-

Philosopher or a Christian  
can doubt of the power  
of spirits, by Gods command  
or permission, to effect  
this and many more a-  
ctions that are far more  
difficult and unlikely.  
And Paracelsus with some  
others would have us be-  
lieve that there are innu-  
merable such spirits or ge-  
ni that inhabit the Earth,  
as he hath projected there  
are Inhabitants of the  
Sun, Moon, and other Pla-  
nets, which he calls Solar,  
Lunar, Saturnine, &c. and  
of

of the air which he styles  
aerial. And to their ma-  
nagements referreth all  
the natural motions of  
Generation and Corruption,  
and the violent, as of  
Chasms, Earthquakes, and o-  
ther alterations in the  
bowels of the Earth. Nay,  
they reduce them to sever-  
al Classes and Orders, and  
with a little invitation  
would be ready to swear,  
that many of them are  
Engineers that contrive the  
Water-works, and make Ri-  
vers and Aqueducts, that  
some

some are Blacksmiths by Trade that work in the *Vulcanoes*; that some are *Brewers* that boil natural baths, and use *Minerals* instead of *Mault*. But these opinions are such, that besides their own natural absurdity, our Religion will teach us to explode, and are then confuted when they are only named. For though we grant that some such things are possible to be done by the *Devil*, that is not so the Prince of the  
power



power of the air, as not to be the God of this lower world; yet to impute all things to them must needs be *asylum ignorantie*, and a *Remora* to all ingenious and Philosophical disquisitions, of the nature and causes of all things and actions in the bowels of the Earth, and a means to make us know no more of nature than what is obvious to sense. So that I take it for granted, that some natural, ordinary vehicle there is under the Earth that brings

brings such heterogeneous bodies from their native and genial seat, and proper place, to such Vauls, Hills, Veins, and Caverns where they are found.

4. Now the most likely movers of all others to carry bodies of weight under the Earth are two; either exhalations or waters, for as for vapours, I look not on them as capable of carrying any thing of weight, especially so low in the Earth, where they cannot be so much rarefied, by

regard

rea-

reason of the natural cold-  
ness of that Element. Tis  
true, May-dew which is a  
vapour condensed will carry  
up an Egg-shell in which  
it is put, by the help of a  
Pike or Spear placed by it,  
But this is in the sight of  
the Sun, and if so much as  
a thin cloud interpose it falls  
again immediately: A-  
gain, the shell is exceeding  
light; besides that, the  
dew is sealed in it that it  
cannot get out; and even  
this moves upwards to-  
wards the Sun, not side-  
ways

ways along the *Earth*. So that it must be concluded, that vapours cannot be serviceable to our purpose, so as to force whole veins of shells or other bodies to places so far distant from the Sea, and there to ram them in. It remains then, that this be effected by one or other of the former means.

As for exhalations; and that their force is such that can impetuously move bodies of the greatest weight, we need look no further than

than our *Gun-powder*, and the *Machines* or *Engines* that are used by or with it; such as *Cannons*, - *Bullets*, *Balls of Lead or Iron*, *Stones*, *Granadoes*, &c. of which some, by the help of a cold and dry exhalation pent in the *Niter* or *Salt-Peter*, and suddenly by fire flying out, make as stupend refractions of the air, and obtain a violence equal to that of our usual *thunder* and *lightnings*. And after the same manner is their force and light caused,

C

the

the violence and noise of *Aurum Fulminans*. And these exhalations which have such effects above, have the same strength under ground, as appears by *Earthquakes*, with which there are usually heard a

\* *Terra  
mugi u  
tremuit*

\* *murmur* and sound. When *Sempronius Gracchus* was

*M. Cat. Quint. Mart. Coss. Fremitus infernus ad Cælum ferri visus M. Anton. A. Posth. Coss. Fremitus terra etiam Fæsulis auditus M. Perpenn. Cai. Claud. Coss.* The City *Ferrara* in the year 1570. was surprized with a fearful noise, as if it had been battered with great Ordinance, afterwards with a most violent trembling.

set-

setting on the *Piceni*, and they were just joyning battel ; \* *tam horrendo fragore terra tremuit, ut stupore miraculi utrumque pavescit agmen hebesceret.* \* *Oros. lib. 4. cap. 4.* These make the Earth tremble, the Mountains rowl, the Rocks quake, and especially if the exhalation that causeth them be impregnate with Nitro-sulphureous spirits, which have sometimes thrust out hills where there were plains, Islands in the midst of Seas, made huge Rivers

C 2

where

where there were none, turned the current of some, stopped others, left vast caverns and holes, depressed Mountains, swallowed Cities and Armies, subverted Temples and Palaces. Cizicus a City of *Misia minor*, with the famous Temple of Jupiter there, were both swallowed in an *Earthquake*; and so was *Philadelphia* another City of the same *Misia*, and one of the Churches St. John writ to. *Apoc. 3. 7.* In an *Earthquake* in *Vinianfu* in



in China, the Nitrosulphureous spirits burst out of the Earth in such an actual flame, that it consumed the whole City and innumerable people. At Hien in the same Country, the fall of the houses by the same Earthquake flew eight thousand. At Enchinon an hundred thousand perished. Immediately on the bitter persecution of *Dioclesian*, a fearful Earthquake happened in Syria, by which Tyre and Sydon were almost destroyed, and many

C 3

*Oref. lib.*  
*7. c. 17.*

many thousands were kil'd.

*Lucan.*  
*lib. 1.*

—— *Quatiente ruina*

*Nutantes pendere domos.*——

Or as the same *Author* elsewhere describeth an earthquake,

—— *Cardine tellus*

*Subsedit, veterémq; jugis nutantibus Alpes*

*Discussere nivem.*——

*Jos. An.*  
*11. 1. 9.*  
*c. 11.*

We read of one in *Judeah*, at *Uzzah's* usurpation of the *Priests* office, which rent the *Temple*, and a *Hill* in the *East* was removed four furlongs towards the *West*; of another in *Herods* Reign,

Reign, that slew ten thousand Jews. *l. 15. c. 7.* Marcley hill with us in Hereford-shire, Anno 1571. with a great noise removed it self from its place, and went continually for three dayes together, overthrowing Kinnaston Chapel, bearing the earth 400. yards before it. And therefore Exhalations may be granted to remove stones and sands, and with them such heterogeneous bodies as lie on them, from one place to another, from the sea to the  
C 4                      hills,

bills, from a coast far into  
a countrey. But *Earthquakes*  
are not frequent in any  
places unless near *Vulcanoes*,  
and are less usual in these  
parts; and yet in most  
places all over *Europe*, such  
*beterogeneous bodies* have  
been found under the  
*Earth*, at great distance  
from the Sea. Again, the  
force of *Exhalations* is most  
evident in mountainous,  
rocky countreys, because  
when they are pent into  
such places they cannot  
have vent; whereas these  
bodies

bodies are often found in  
*mosses, bogs, and marish*  
*grounds*, as frequently as  
in other earth.

5. So that they are  
most likely to be hurried  
thither by the force of  
*Waters*, passing from the  
*Sea* through the caverns  
of the *Earth*. The reason-  
ableness of which opinion  
will the better appear, if  
we consider that,

1. As the *Earth* is of a vast  
compass, and no less than  
7000 miles in *Diameter*, of  
which the *Water* doth not

C 5,      make:

make above one third part of the *Globe*, and that on the *surface* of *Earth* too ; and so far as was ever yet discovered of the *Earth*, no part of it is destitute of some *mineral substance* continually generating in it, unless where either the *Sun* exhales the force of it, or *Nature* is otherwise employed in producing *Vegetables*. So that if the *Earth* be kept from the sight of the *Sun*, and the production of plants, nor is apt to other generations

tions, yet it fails not to produce *Saltpeter* or *Nitre* in good quantity. And this is the reason that *Saltpeter-men* dig in *Stables*, *Cellars*, and other houses. So that in the whole bowels of the Earth, what vast heaps, what mountains of *metalls* are there? Some *in fieri*, some *in facto esse*; perfect and imperfect; mean *metalls*, *Stones*, *Fluors* of all sorts, *Salts*, and concrete *Juices*; besides the several sorts of *Earths*, *Chalks*, *Boles*, *Bitumina*,  
and

and the mixtures of all or any of these, of which it were inuch too large, and more besides my purpose particularly to discourse.

2. Where there are so vast and numerous generations, tis impossible that they should succeed without vast quantities of water. Nay, to speak more home, the first matter that hath been yet discovered of all *Minerals*, is no other than a certain *Juice* or *Water* impregnate with the *seminal vertue* of this or  
that



that Mineral stone or Metall,  
which from water (when  
it hath found a conveni-  
ent matrix) becomes a gel-  
ly, and from a gelly this or  
that stone or metall. This  
is obvious from several  
springs, whose water im-  
pregnate with the seeds of  
stone, having found a place  
of rest convert into perfect  
stone. Of which sort, we  
read of some in \* Hunga-  
ry, of others in Peru by \* \* War-  
ner. de  
\* Acosta. In Guancavilica Aq.  
there is a Fountain that Hungar.  
turns into a Rock, with \* Acost.  
l. 3. c. 17.  
which

which an whole Village is built. At Newnham Regis in Warwick-shire, our Geographers tell us of a Well that after the same manner turneth wood into stone; of another in the the North, that dropping from above into a Cave, becomes clear and very hard stone beneath. *Rivus est apud Scotos Ratra dictus, in cujus ripa est spelunca, in qua guttatim ex fornice distillans nuda lapidescit in metas, quæ nisi tollantur humana industria, spatium totum opple-*  
rent

*Bert.**Geog.**p. 127.*

rent. Some Minerals are no other than certain kind of Juices accreted, as *Allum, Vitriol, &c.* And Mine-masters have sometimes found Metalls liquid and unconcrete when they have peirced a Mine too soon; *Matthesius* mentions liquid Silver found by some. And for this without doubt among other causes, is water by the *Ancients* called *Panspermia*; for that the seeds of things in the Earth have very little vertue without this,

this, *Moses* insinuates, *Gen.*  
 2. 5. where he gives this  
 reason why no Plants yet  
 grew, viz. because they  
 lay in arido, for the Lord had  
 not caused it to rain on the  
 earth. I am very confident  
 that the Poets did not only  
 call *Venus* the Goddesse of  
 generation, *Αφροδιτα* & *Θέα*,  
 the spume-born Goddesse;  
 from the saltness of the  
 spume, (though some of  
 later date have therefore  
 called her *Αλκυον*) but from  
 the waters that bare it.  
 Nor is there any question  
 to

to be made, but that the  
inhabitants of the waters  
are therefore more nume-  
rous than other creatures,  
not for any saltness, which  
at the most can

but \* irritate to  
copulation, but  
doth not ren-  
der the seed e-  
ver the more

*\* Egyptii ideo à sale  
abstinuerunt ( teste  
Plutarcho ) quod sa-  
lem venerem irritare  
persuasum haberent. Le-  
vin. Lemn. de Nat.  
Miracul. l. 2. p. 228.*

prolificall. For fresh water  
fish are as multiplicative of  
their species as the other in  
proportion. There is not  
a fish that swimmeth in  
the deep that hath a grea-  
ter

ter quantity of spawn  
considering his bulk, than  
a Carp; yet it is a fresh  
water fish.

Nor can I believe there  
can any other reason be  
given, why the Irish women  
have so many Children, than  
because their Country, and  
consequently themselves, are  
so exceeding moist, as ap-  
pears by their stature, their  
pale countenances, their fla-  
cid, soft and phlegmatick ha-  
bit of body. And indeed I  
think that it were as rea-  
sonable to seek for taste in  
an

an egg, as for salt in the <sup>Ex ovo</sup>  
 sperm of fish or any other <sup>omnia.</sup>  
 creature; for by virulent <sup>Harv.</sup>  
 Gonorrhæa's it appears that And  
 a sharp and saline quality, is what  
 taken rather of corrupti- taste is  
 on than of any active and there in  
 generative energy. Et quod the  
 verissimum est dicimus; white of  
 No- a egg?  
 vimus & jam nosco mulieres  
 varias conjugatas sat juve-  
 nes, quæ ab erroribus dietæ à  
 Pica sive Malacia causatis,  
 præcipuè à salitorum, vel potius  
 ab incommisti salis esu, non  
 tandum sordidos pallidos fæ-  
 tidosque obtinere colores; cu-  
 tes

tes impolitas & rugosas, ventriculos nauseabundos; verumetiam suffocatae omnino evaserunt & steriles. But although I attribute the effects above mentioned to water rather than salt; yet I would not be conceived to imbibe Thales Milesius opinion, that aqua is named, quasi à qua omnia, as if all things were from it; and yet do believe that it is causa sine qua non, and a great nurse and fosterer of Generations, if not a Parent of them. And of Minerals



nals too ; especially if we  
e should embrace the opi-  
nion of the *Peripateticks*,  
that all mixed bodies are  
immediately composed of  
the four *Elements* ; for then  
these being the most pon-  
derous bodies, must needs  
have in them the most  
weighty *Elements* in good  
quantity, and those are  
*Earth* and *Water*.

3. The *Sea* is the ori-  
ginal of all *Waters* ; nor  
could any fountain else  
afford enough to supply  
the *Earth* to all uses.  
That

That which by the Neotericks hath lately been found out, of the Circulation of the Bloud and Humours in the Microcosm, was long since discovered (which might possibly hint that) in the greater world. *Eccles. 1.* *All rivers run into the Sea yet the Sea is not full: unto the place from whence the rivers come, thither they return again.* And what huge quantities of water must be necessary for the whole Earth, may be hence

hence inferred, that the  
superficies of it needs so  
much, that besides the in-  
numerable Springs, Foun-  
tains, Channels, Rivers  
and Lakes with which it  
is irrigated, were it not  
for frequent showres  
from above, would soon  
be parched up, and un-  
able to produce *sustenance*  
for Man or Beast; which  
help the bowels of the  
Earth are destitute of;  
for the moisture of *showres*  
pierce not above ten  
foot deep at the most.  
And

And indeed, this is the  
only reason that can be  
given of the Seas saltness,  
because it doth wash, and  
so dissolve much salt from  
the rocks of Salt in sub-  
terranean caverns where  
it doth pass, and would  
long ere this have caused  
places, where such rocks  
have been, to sink in:  
But that, first, there is a  
continual generation and ac-  
cretion, as well as a dissolu-  
tion; and secondly, be-  
cause that Salt is very  
hard, in so much that some  
stones

stones of salt there are found in several waters undissolved; as those of which *Cambden* informs us in the River *Weere* near *Batterby* in the *Bishoprick* *Cambd.* of *Durham*. And as for *Brit. Bry-* that dreadful story of *Lots* *gant.* wife turned into a pillar of salt, *Gen. 19. 26.* as we are to believe the thing, so may it not be improbable that it was termed a pillar, as well for the solidity, durability, and difficulty of dissolution, as well as for its shape and form; God  
D striking

striking her in that manner, as a more *durable monument* of his anger against Disobedience. And our *glass* at this day is but *salt* after its *highest fusion*, and yet it is very *solid* and *durable*, and imports no quality to water. Thirdly and lastly, the *Sea-water* having imbibed so much *salt* before, is the less able to dissolve more.

4. That though the *Sea* on the coast near the shore, may communicate its waters by *perlocation*,  
tion,

tion, yet to places at great distance it cannot pass so as to afford a due supply, but by *Gulphs* and *subterranean In-draughts*. In many places of the world they make the *sea-water* potable and *fresh* by digging of pits in the sand, into which the *sea-water* streining it self, leaves its *saltness* behind. But this must be done at no great distance from the *Sea*, and it must be in *sand* or *clay*, or the like; for if the shore be *rocky*,

it will not do; as we see in many places where they dig a very great depth for *fresh water* near the *Sea*, and cannot be supplied till they find a *fresh spring*, a great many foot under the surface of the *Sea*. So we see that when we *filtrate* liquors through *shop-paper*, if it be thin and *bibulous*, it passeth; if thick and too close, it will not pass. Some illustrate the *percolation* of the *sea-water* by this experiment. Take



a round ball of moist clay,  
make it hollow in the in-  
side, fill it with salt wa-  
ter, lay it to the fire, and  
it will extill by the pores of  
the clay, and become fresh  
and insipid.

Now that there are  
vast gulphs and chanel  
from the sea under the  
earth, will easily appear,  
when we consider, that  
some great lakes and oce-  
ans there are, that have no  
other way to vent them-  
selves. What way can the  
Caspian Sea exonerate it self  
by,

by, after it hath taken  
into it *Volga*, *Jaxares*,  
*Ochus*, *Oxus*, and other  
huge Rivers? What o-  
ther reason can be given  
why some lakes are full  
of sea fish, and yet at  
great distance from the  
Sea? In *Bainoa*, a Pro-  
vince of *Hispaniola*, is a  
lake of salt water which  
hath 24 Rivers running  
into it, yet never increa-  
seth, and hath *Sharks* and  
other sea-fish in it. Again,  
there are salt springs in  
all Countreys that ebbe  
and

and *flow* as the Sea and the Coasts do. There are also *salt rivers*, as *Ochus* and *Oxus*; *salt lakes*, as that before mentioned. Besides this, it is ordinary for *chanel*s and *rivers* to run a great way on the *earth*, and then to *ingulp* themselves. The waters of the *Cirknickzerksey* <sup>Georg.</sup> *lake* in *Carniola*, gush with <sup>Wine-</sup> *rus.* that violence and swiftnesse out of the ground, that they will overtake a swift Horse-man, and presently are swallowed

in a deep gulph again. In the Province of *Caz-  
cium* in *Hispaniola* is a  
great cave in an hollow  
rock, under the root of a  
very high mountain, in  
which divers Rivers, af-  
ter they have run four-  
score and ten miles, pass as  
into an indraught, and  
are swallowed up. In  
most Countreys we read  
of the like. A moun-  
tain there is in *Caermar-  
then-shire*, where *Careg-  
castle* sometimes stood,  
in which are many spa-  
cious

cious holes and wide caves,  
with a Well that ebbs and  
flows as the Sea on the  
Coast doth, twice in four  
and twenty hours. The  
Current of one and the  
same Sea in several parts  
contrary ways demon-  
strates this, as in the  
*Atlantick Sea*, in some  
places *from*, and in some  
places *towards the North*,  
like Liquor in a fun-  
nel. In some places there  
are *whirlepoools*, whose wa-  
ters turn clean round, in-  
somuch that if a Ship at  
D 5                      such.

Such an  
one  
there is  
in the  
North  
Sea, near  
the coast  
of Nor-  
way.

*Moral.*  
*decad. 7.*  
*c. 8.*

Such times come over  
them, they are in most  
extreme danger of sink-  
ing: At other times the  
waters with that violence  
come out of the earth,  
that a Cannon cast over-  
board will not sink. This  
caused Taurellus, and some  
others, to think these  
the onely cause of the  
*Tides.* *Andreas Moralis* on  
the Coast of *Hisspaniola*  
was sucked into whirle-  
pools, where with that  
violence the water was  
drawn into the earth, that  
with

with extraordinary toil  
the Ship hardly escaped  
sinking. Again, the hete-  
rogeneous bodies that are  
found so deep, are such  
usually that either are ge-  
nerated, or most usually  
dwell in the Sea; as shells,  
bones of fish, masts, anchors,  
parts of ships. At Berna<sup>Simlerus</sup>  
in Switzerland, Anno 1460. <sup>Orielius</sup>  
fifty fathom deep, in a Mine  
where they got metall-oar, a <sup>Fracastor-</sup>  
Ship was digged up, in which <sup>rius.</sup>  
were forty eight carkases of  
Men, with other merchan-  
dise. Out of the Ocean  
into

*In Greenland a Mast was digged out of the top of an high Hill with a pully hanging to it.*

into the Medi-  
terranean Sea,  
there is a con-  
tinual current

by the streights of Gibrat-  
tar; another Current  
into the same out of  
the Euxine Sea, by the  
Thrasian Bosphorus; be-  
sides, very many and  
great Rivers. And which  
way can it exonerate it  
self? for those vast flouds  
do not increase it. And  
Solomons Circulation of hu-  
mours in the Macrocosm  
above mentioned, is ve-

ry



ry considerable; nor is the *Analogy* in this particular between that and the lesser World obscure. For the Sea in that answereth to the *Fountain of bloud* in this. The *Subterranean Rivers*, and those above ground, may answer to the *vessels* containing the *bloud*. And both these answer to the *Vasa attrahentia, & deferentia*; for the *subterranean chanel* carry the *water* from the Sea, the *Rivers* return it to the Sea.

Again,

Again, as both sorts of  
vessels are greater near  
the fountain of bloud in the  
body; so are the chanel  
biggest nearest the Sea their  
fountain; and though it  
may sometimes happen  
otherwise, yet if the banks  
of any are wider, so that  
they look like lakes a  
great while before they  
discharge themselves in-  
to the Ocean; I look on  
it but as casuall, and  
bearing proportion with  
the divarications of vessels  
in mans body. Again,  
vessels

vessels in our bodies are from trunks (like trees) branched out, in ramulos, surculos, and other minute distributions (answering to the stalks of leaves or fruits) which are again subdivided into capillary conveyances, and thence the blood and humours pass per poros for the nutriment of the solid parts; so are the Rivers above (and without doubt the channels under ground in proportion to them) from their main trunks divided into

into Brooks, those Brooks  
into Rivulets, these into  
lesser conveyances as it were  
capillary vessels, and eve-  
ry where dispersed and  
disseminated according to  
the exigence of nature, and  
thence passe through the  
pores of the Earth, that no  
part may be destitute of a  
due supply for the Genera-  
tion and increase of all bo-  
dies. Again, the *aestus*  
*maris* bears some propor-  
tion to the pulse of the  
bloud in the *Microcosm*,  
the ebbing and contraction  
of

of the water is the *systole*; the *turgescency*, floating, and dilatation of the water, is the *diastole*; the space between both the *perisystole*. Again, as in the heart and in some vessels only that carry the blood that motion is to be found; so is the *aëtus* discovered in some vessels only that conveigh the humour of the greater World. Not that I look on this as any kind of proof, but as an illustration, the better to guide our conceptions in

in *Natures Water-works*, a  
by what is seen that we wat  
may the better under the  
stand that which is not fro  
seen, or at least not so as  
plainly. However e and  
nough to our purpose it to  
is, that such *Subterranean* hill  
*chanel*s there are from the pla  
*Sea* under the *Earth*. As to  
for the common scruple mo  
of the improbability of ea  
the *waters* rising so high be  
out of the *Sea* to the su- th  
*perficie* of the *Earth*, it is mi  
the least hindrance of an na  
hundred; for if there be 10

a continuity of the air,  
waters will rise as high as  
the surface of the waters  
from whence they came,  
as appears in Siphunculis;  
and therefore may rise  
to the tops of the highest  
hills. For the highest  
places of the Sea answer  
to the tops of the loftiest  
mountains, or else the  
earth could not

be spherical. To  
this the Psal-  
mist is conso-  
nant, Psalme  
104. The wa-

*were it not for bounds  
God hath set, the wa-  
ters are high enough  
to turn again and co-  
ver the earth, v. 9. He  
hath Chambers or  
Receptacles by which  
to water the hills, v. 13*

*ters*

ters go up by the Mountains,  
they go down by the Valleys  
unto the place which thou  
hast founded for them.  
With what violence do  
the waters gush out of  
Saint Winifreds Well in  
Wales on the top of a  
great hill? Again, com-  
pression of those vast  
quantities of water for-  
cing them into Earth, may  
make them mount the  
higher; as Hoggsheds  
full and newly broached  
run the faster. I'll il-  
lustrate this by the fol-  
low-



lowing experiment. Take two round Boards equally sized, fasten strong Leather to those Boards above, below, and on the sides so close that they may hold water; from the lower board let an hollow pipe go up on the out-side higher than the upper board; fill this instrument with water; then put a weight on the upper board, and proportionable to the weight so will the waters mount to

to a greater or lesser height, as in this Figure.



A. The upper board.

B. The lower board.

ccc. The Leather on every side.

D. The

D. The Pipe through which the water will leap upwards.

E. The weight of compression.

But it may be objected, that this is an adventitious and external compression; and not that of the water onely. But I answer, that such a compression there is in the Sea from agitation of the waters by wind, and other causes; and yet that waters by their own  
na-

natural compression will mount higher than the brims of the vessel containing, may be evident from this, that if we take one of a considerable capacity, with a pipe on the outside something higher than its brims; and rub the brims with Rosin, or such like Gum, and then fill it full till no more water can be poured in, stopping the orifice of the pipe in the mean time with ones finger, then removing the fin.

finger, it will presently  
burst out at the pipe. It  
may be demanded then,  
Why are not all Rivers  
salt? To this I an-  
swer, That most of them  
have their waters stopped  
and percolated, and so  
leave their saltnesse be-  
hind. But as for those  
that have no hinderance,  
they are not onely salt,  
but do constantly ebbe  
and flow, as hath been ex-  
emplified already. Those  
that have a stoppage by  
a bank of earth to such an  
E beighth

See Or-  
cel. map.  
epitomi-  
zed in  
the de-  
scription  
of Gades.

height only, issue fresh water at their ebbe, and at their fote sale; as that fountain in the Isle of Gades doth. Those that are salt, and have no tides, are such as after percolation wash some rocks of salt before their eruption.

5. Where mighty floods come with violence, as these must of necessity do by reason of the vast quantity, the mighty compression, and the unspeakable weight of the waters  
of

of the Ocean, they will easily carry with them light, and with no great difficulty ponderous bodies. This needs not, and therefore shall not, have any proof.

6. *Heterogeneous bodies* by the weight and strength of waters forced into a narrow place, cannot easily by the return of those beyond them, (if they return at all the same way) be brought forth again. Because there is little or no compression, and  
E 2                    there-

therefore the return of the water is *leasurely*, and by degrees. This is obvious to Sense, and therefore needs no illustration.

7. And as much evident to sense it is that any heterogeneous bodies so remaining unremoved, soon gather *slime* and *sand* about them, and in a small space of time are lodged as it were in firm ground. This is no more wonderful than to have any vessel in the *Micro-*  
*cosm*



cosm obstructed by crude and heterogeneous bodies, *ceteris paribus*. Nor need we seek for rare Water-works; for every ordinary gutter and sink will demonstrate this.

And thus (*Doctor*) you have my Opinion of the way by which those Cockle, Muscle, and Oyster-shells you mentioned, were brought and lodged in that place. If they were truly shells, they were conveyed either above or under ground;

E 3      but

but not so usually above, therefore under. If under ground, then by natural or voluntary agents. If by natural and necessary, then either by *Vapours*, *Exhalations*, or *Waters*; but this is done usually and commonly by none of the former, therefore by the last; which is the more likely to effect it,

1. Because there are numerous generations in the Earth.

2. Where many generations are, much water is necessary.

3. No

3. No fountain can supply the earth to these purposes but the Sea, which is the original of all waters.

4. Though the Sea communicate his waters to places near it by percolation; it must and doth supply that afar off by whole floods, gulphs, and indraughts.

5. Where mighty floods come with violence, they will carry very weighty bodies with them.

6. Heterogeneous bodies are not easily brought back

back again when they are forced into a narrow place.

7. But in a little time gather *slime*, and earth about them, and so are lodged in firm ground.

Pfal. 139. 14.

*Marvellous are thy works  
(O Lord) and that my soul  
knows right well.*

FINIS.